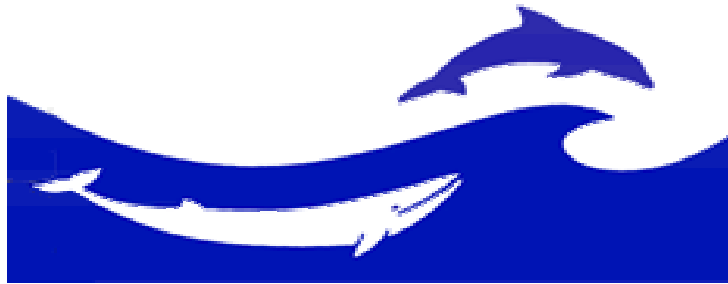


Hebridean Whale And Dolphin Trust



NÁDAIR I
Project 5 Final Report
November 2004



NÀDAIR

(Nature and Sustainable Development in the Argyll Islands)

In 2000, the NÀDAIR Trust (Nature and Sustainable Development in the Argyll Islands) secured Heritage Lottery funding for 32 individual heritage-based projects throughout the Argyll islands. All the projects focused on the sustainable development of the outstanding natural, archaeological, historical, cultural and geological interest of the Argyll islands, whilst protecting existing jobs and creating new employment opportunities.

HWDT contributed three projects as part of the NÀDAIR programme and these three projects have been the basis of most of HWDT's activities since their commencement:

NÀDAIR Project 5: Marine Interpretation and Education Project

NÀDAIR Project 28: Marine Life Monitoring and Marine Outreach Project

NÀDAIR Project 29: Community Sea Life Sightings Project

These three projects were primarily funded by the Heritage Lottery Fund, with additional funding from Scottish Natural Heritage and Argyll and the Islands Enterprise.

Supported by the
Heritage Lottery Fund



These three-year projects began in September 2001 and were completed in November 2004. This report summarizes the achievements and outcomes of project 5.

Overall Aims of Projects

- To raise public awareness, through education and communication, about the presence of whales and dolphins in the Hebrides and the threats that they face.
- To conduct benign research into cetaceans, their environment and associated species and to disseminate the results of this research to the public and relevant organisations.
- To promote the sustainable use of the Hebridean marine environment.
- To work within and support the local economy of the Hebrides through sustainable ecotourism, education/training and job opportunities, and to encourage stewardship of the marine environment.

Marine Interpretation and Education Project

NÀDAIR Project 5

Background



The coastal waters of the Argyll islands are one of the most important marine habitats in Europe. The area is inhabited by substantial populations of conservation priority species. For example, 19 species of whales and dolphins have been reported from the region; basking sharks abound in the summer months; otters dwell in most of the sea lochs; seabirds, such as gannets, puffins, shearwaters, petrels and sea eagles live on the coastal cliffs and skim over the waves; and beneath the surface dwell thousands of fish and crustacean species, with fragile habitats such as serpulid reefs and maerl beds.

However, despite this wealth of marine life, awareness of this great diversity, and its importance, is relatively low. Explaining the need to maintain this diversity through conservation is especially important as the economies of many coastal communities (through the fishing industry and boat-based tourism) depend upon the diversity of marine species in their coastal waters and the continued health and sustainability of these species.

This diversity of marine life in Argyll could also assist the future economy of the region. In a visitor survey conducted at the beginning of the project, the seascape and marine wildlife were put forward as two of the main reasons that visitors came to the Argyll island of Mull. Bringing the attention of both potential visitors and local inhabitants to Argyll's marine environment will help to boost tourism-based business in the region – the largest employer in the Argyll islands.

The Scottish, UK and EU Governments have all admitted on several occasions that our knowledge of the marine environment and its conservation falls woefully behind the conservation of the terrestrial environment.

The interpretation of the Argyll islands marine environment and the production of education/interpretation materials was the main focus of Project 5. Materials produced under the project have provided interpretative materials for all ages and sections of society with specific materials being aimed at different education sectors (e.g. primary, secondary, higher/further and adult education). These resources were also utilised through the Marine Outreach Project (project 28) taking marine education around the Argyll islands. By raising public awareness through education and interpretation, HWDT hopes to safeguard the future the Argyll marine environment and the animals and communities that it supports.

Outcomes and Achievements

Table 1. Summary of Projected and Completed Outputs for NÁDAIR Project 5

Category	NÁDAIR Project 5 Projected Outputs	NÁDAIR Project 5 Completed Outputs
Educational & Interpretative Display Materials		
	8 interpretative display boards	9 interpretative display boards
	Whale Model	Minke Whale, Bottlenose Dolphin and Harbour porpoise models
	Giant Inflatable Whale	Life-sized Inflatable Minke Whale & Bottlenose Dolphin
	Dolphin & Puffin Costumes	Dolphin & Puffin Costumes Completed
Educational & Interpretative Printed Resources		
	6 newsletters	6 newsletters: 3 'Wave' & 3 'Wavelets'
	10,000 Mull marine-life/heritage leaflets	1,000 Mull Marine life/heritage booklets
	10,000 Coll & Tiree marine-life/heritage leaflets	1,000 Coll & Tiree marine life/heritage booklets
	10,000 Islay & Jura marine-life/heritage leaflets	'The Sea Kingdom of Argyll' A booklet covering all of the Argyll islands and the marine life / heritage, including wildlife watching map. 1000 copies
	1000 marine habitat interpretation maps	
	1000 marine and coastal wildlife-watching maps	
	90+ books & 30 CD-ROMs for environmental library	200+ books & 34+CD-ROMs
	3 HE/FE Marine-life course packs	3 HE/FE Marine-life course packs
Educational & Interpretative Multimedia Resources		
	A video describing Argyll marine life and marine heritage of the region	'Whales & Dolphins of the Hebrides' Educational video
	36+ WebPages	100+ WebPages
	Computer, software & design hardware for interpretative projects	Laptop, printer, scanner, digital camera, Adobe Photoshop, etc . . .
School Visits		
	8 School Visits	60 School Visits
Children's Activity Days		
	18 Children's Activity days	28 Children's Activity Days / Educational Events
Public Talks & Events		
	46 public talks on Argyll marine life	50+ public talks on Argyll marine life
	36 conferences & forums attended	66 conferences & forums attended
	2 press/media information trips	3 press/media trips
	A symposium on whales & dolphins	West Coast Whale Festival September 18 th – 19 th , 2004
Marine Awareness Education & Monitoring		
	Public enquiries about marine wildlife	1600+ Public enquires about marine wildlife
	Training Programme	Training Programme with volunteers & local people
	11 focus groups & questionnaires	11 questionnaires & focus groups completed
Press Trips and Visits		
	2 press/media visits	2 group visits and over 22 individual visits
Reports		
	2 progress reports	2 reports completed (this is the 2 nd one)

EDUCATIONAL & INTERPRETATIVE DISPLAY RESOURCES

A number of different educational and interpretative resources have been produced as part of the NÁDAIR projects for use in the Marine Discovery Centre, in conjunction with the Marine Outreach project, school visits, community talks and events.

Display Boards



Project 5 provided funding for the production of 8 interpretative display boards giving information on marine mammals, island-specific marine heritage and conserving the sustainable use of the marine environment.

Five display boards have been produced on: whale biology, resident cetacean species, minke whales, bottlenose dolphins and the work of HWDT. One set of these boards has been put on display in the HWDT Marine Discovery Centre. Sets of boards have also been sent to the Scottish Sea Life Sanctuary (Oban), The Millport Aquarium, Ardnamurchan Lighthouse Visitor Centre and the Islay Natural History Trust. 2 further sets have been produced for use in shows, events and in school/community group visits.

Additional boards were produced for each of the 3 projects to display at the 2004 West Coast Whale Festival. These boards detailed the results and achievements of the NÁDAIR projects: 2 on the Marine Outreach project (Project 28: Monitoring & Education), one on the Community Sightings Project (Project 29), and one on the Education & Interpretation Project (Project 5).

Whale Models

Three models of a minke whale, a bottlenose dolphin and a harbour porpoise have been constructed. These models are lightweight and approximately a metre long and are used to illustrate what whales and dolphins look like in interpretative shows, school visits and activity days.

Inflatable Whale and Dolphin



In addition to the metre long cetacean models, life-sized inflatable minke whale and bottlenose dolphin have been produced and these attractive and highly visual inflatables help children and visitors get an idea of size of these animals and what these amazing creatures really look like. These inflatables are easy to transport and have been used extensively in interpretative shows, school visits, and activity days, as well as in the Marine Outreach Project (NÁDAIR project 28).

Dolphin and Puffin Costumes



A puffin and a bottlenose dolphin costume were commissioned from local artist Lee Hendrick. These colourful costumes have made appearances at a number of interpretative shows and events, including the Tobermory Lifeboat day, the 2003 ABREEF event and the 2004 West Coast Whale Festival. At every event they were brought out, they have attracted the attention of children and adults alike and added a bit of extra fun and excitement to the day.

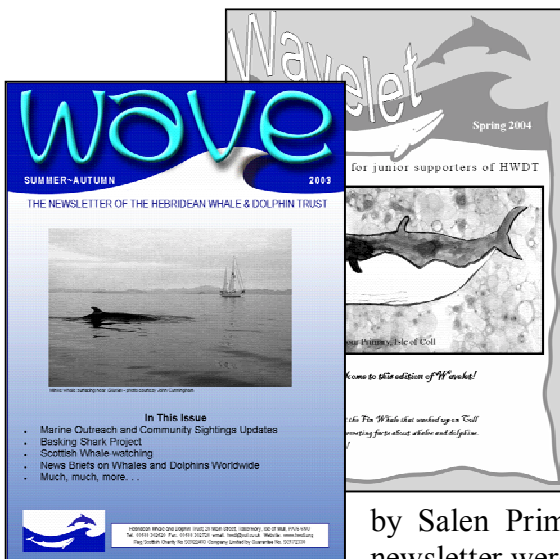
Marine Discovery Centre

The NÁDAIR project funding allowed the refurbishment and renovation of HWDT's Marine Discovery Centre in Tobermory. The display boards (detailed above), new shelving and the "yellow submarine" video unit have greatly enhanced the centre for visitors. New window displays and interactive activities focusing on different aspects of the marine environment were also produced on a regular basis to provide the local community as well as visitors with opportunities to learn about different aspects of the marine environment and incentives to keep returning to the centre. Throughout the duration of the Marine Education and Interpretation project the HWDT Marine Discovery Centre has attracted approximately 50,000 visitors.



EDUCATIONAL & INTERPRETATIVE PRINTED MATERIALS

Newsletters



Over the period of the NÁDAIR projects, HWDT produced 6 newsletters, 3 for our adult members (*Wave*) and 3 for our youth members (*Wavelet*). The editions of *Wave* detailed HWDT's latest activities (both educational and scientific) as well as articles on recent conservation issues and the marine heritage of the Argyll Islands. The editions of *Wavelet* were specifically tailored for Argyll's primary school children containing articles, games and activities on whales & dolphins, the local marine environment and the importance of conservation. Most editions also featured art work, articles and games produced by children from Argyll including a Gaelic section in the most recent *Wavelet* written and designed by Salen Primary's Gaelic Unit. Approximately 1000 copies of each newsletter were printed and distributed.

Marine life/Heritage Booklets & Wildlife Watching Map



Project 5 provided funding for the production of a series of leaflets on the marine heritage of the Argyll Islands. Two detailed booklets on the Isles of Mull, Coll and Tiree were produced with the help of local author Rosalind Jones. These booklets provide information on a variety of topics including historic wrecks, sea-related legends, coastal walks, indigenous wildlife, as well as descriptions of rocky shores and local fishing practices. One thousand copies of each book have been produced and distributed. The feedback from these booklets was positive and so the decision was made to expand these small booklets into one book covering all the Argyll islands, its geology, ecology, marine flora and fauna and heritage. This is a fully illustrated 100 page book with colour photographs and diagrams that includes a detailed wildlife watching map. 1000 copies of the book, *The Sea Kingdom of Argyll: an Educational Guide to the Marine Environment of the Argyll Islands*, are being printed to be distributed throughout Argyll as educational material for the general public and local schools.

Environmental Library

The NÁDAIR project funding has allowed HWDT's environmental library to get a well needed boost. Over 200 books covering a variety of subjects including whales and dolphins, seabird biology, fishing and aquaculture and coastal and marine history, were purchased. In addition 6 magazines (such as *BBC Wildlife* and *British Wildlife*) and 5 journals (e.g. *Journal of Animal Ecology*) have been subscribed to. Also, multimedia items have been acquired for the library including more than 34 CD-ROMS, the BBC documentary series *The Blue Planet* on Video, and interactive resources such as environmentally-themed board games for children.

The library is used by HWDT staff, school children, university and college students, wildlife tour guides, the Mull Ranger Service, and a variety of local community groups.

Higher/Education Course Materials

Providing educational materials for college and university students is a new aspect of HWDT's education programme. Under the NÁDAIR project, HWDT has developed 3 higher/further education courses. These courses comprise 14 lectures on:

- Cetacean evolution, identification, adaptations and behaviour
- Baleen and toothed cetaceans
- Threats faced by whales and dolphins in West Scotland
- Laws and the protection of marine mammals in Scotland
- Cetacean research being conducted in Argyll
- Marine ecotourism in Argyll and whale-watching

These lectures were given to university and college students at a course by the University Marine Biological Station Millport (Glasgow) as part of a course on conservation priority marine species [17/07/02 - 23/07/02, 20/07/03 - 25/07/03, 09/07/04 – 21/07/04].

In addition to the above lectures, field classes were also arranged for the students that included:

- Land-based field trip to observe otters and seals
- Field trip to the Treshnish Isle *Special Area for Conservation* for seals
- Cetacean survey field class on the HWDT monitoring & education vessel *Silurian*

Seven of the above lectures were also given to students on the University of the Highlands and Islands Marine Science degree course [29/11/02 & 24/01/03].

EDUCATIONAL & INTERPRETATIVE MULTIMEDIA RESOURCES

Whale & Dolphin Video

A 28 minute educational video about the lives of whales, dolphins and porpoises in the Hebridean Seas and the conservation work carried out by HWDT was produced. Videos were distributed to each Argyll island school and a selection of coastal mainland schools. The video is played in the Marine Discovery Centre for any visitors who come by and many of them have given staff lots of positive feedback. It is also proved very useful in interpretative shows, public talks, events and school visits. Clips from the video are also included on the website to help illustrate points made about cetacean biology and identification & behaviour of individual species.

Educational Website



HWDT's website (<http://www.hwdt.org>) has been completely redesigned and a total of more than 100 pages have been written, providing key facts on various whale and dolphin species, conservation threats to the marine environment, as well as information on marine and coastal wildlife. Teachers and children's resources have also been developed and are continuing to be developed on the site. In particular there is a special section on the site designed especially for kids with information about the marine environment and wildlife, educational activities, glossary and a form where they can post their questions to the education team.

There are also many interactive resources available online that contribute to all of the projects run by HWDT. These include: a sightings form where the members of the public can submit their whale and dolphin sightings, volunteer application forms making it easier for potential volunteers to apply, cetacean sounds and videos for downloading, ability to search the site and the latest news events posted on the homepage.

The website has proven to be hugely successful, garnering over a million hits since the start of the NÀDAIR project.

School	Date	Attendance
Arinagour Primary (Coll)	02/04	19
Balivanich Primary	04/02/02	55
Balivanich Secondary	04/02/02	43
Berneray Primary	04/02/02	14
Ballachulish Primary	19/03/04	85
	26/03/04	85
Bowmore (Islay)	25/06/02	70
Brodick	05/11/02	42
Bunessan (Mull)	21/02/02	27
Caranish Primary	04/02/02	30
Cardross	13/09/02	105
Colgrain	13/09/02	62
Corrie	07/11/02	12
Drummore Learning Centre	17/03/04	12
	10/05/04	12
	31/05/04	12
Gairelochhead	13/09/02	22
Iona	05/02/02	10
Keills (Islay)	26/06/02	35
Kilchatten Primary (Colonsay)	10/03	11
Kilcraggan	13/09/02	31
Kilmory	07/11/02	34
Kirn	13/09/02	28
Lach Maddy Primary	04/02/02	26
Lamlash (Arran)	06/11/02	35
	15/09/04	35
Lochgoilhead	13/09/02	27
Lomond	13/09/02	26
Luss	13/09/02	33
Lochdon (Mull)	16/01/02	11
	23/01/02	11
Newton Primary	24/06/02	9
Paible Primary	04/02/02	75
Paible Secondary	04/02/02	75
Pirnmill	07/11/02	12
Port Charlotte (Islay)	24/06/02	44
Port Ellen (Islay)	27/06/02	92
Rhu	13/09/02	45
Roseneath	13/09/02	25
Salen (Mull)	22/02/02	56
	26/03/04	18
Shiskine	05/11/02	38
Solas Primary	04/02/02	7
St Josephs	13/09/02	143
Stoney Bridge Primary	04/02/02	20
Tiree	13/03/02	64
Tobermory Primary (Mull)	21/11/01	33
	30/05/02	33
	08/04/04	27
	15/04/04	27
	24/03/04	27
	29/03/04	27
	13/05/04	27
	23/09/04	27
	28/10/04	27
Tobermory Secondary	11/03	15
	06/02/04	12
	23/02/04	12
Whiting Bay Primary (Arran)	06/11/02	30
	16/09/04	30

SOME OF THE SCHOOL VISITS UNDERTAKEN IN PROJECT 5 (OTHER ISLAND SCHOOLS VISITED IN PROJECT 28)



60 school visits have been conducted under the auspices of NADAIR Project 5. Both mainland and island schools in Argyll were visited (43 in total).

The format of the visits included talks on whales, dolphins and the marine environment of West Scotland. Specific topics covered during the visits included dolphin biology, the marine food web, cetacean sounds, cetacean diversity, local whales & dolphins as well as a question and answer sessions. Feedback from teachers and students alike has been overwhelmingly positive.

More in-depth work and multiple visits were conducted with the local primary and secondary schools on Mull. With Tobermory primary two different long-term projects have been conducted. One of the projects was working with the class to produce a PowerPoint presentation about the wildlife on Mull for the 2004 ABREEF event and to present at an assembly at their school. The other project was to work with the students to build their own website about whales and whaling (this project is still currently on-going). With Tobermory High school a project was conducted with one of the maths class to analyse statistically data from the community sightings project (Project 29). Work with the local schools and teachers have been very important to the successes of Project 5 because it is feedback from these students and teachers that has made many contributions to the improvements of, and ideas for, many of the resources produced.

CHILDREN'S ACTIVITY DAYS



Twenty-eight children's activity days have been conducted over the course of the project. Some of these days were conducted jointly with the Mull and Iona Ranger Service. The activity days included a variety of environmentally themed games and talks as well as providing hands-on interpretative materials. Several of the activity days involved local children participating in a beach clean. These events were attended by over 300 children.

PUBLIC TALKS & EVENTS

Public Talks

Over 50 talks have been given to a variety of audiences including tourists, local residents, scientists, students, representatives of governmental bodies and environmental charities. Topics covered in these talks include whales & dolphins of Argyll and West Scotland, whale-watching & ecotourism and marine mammal conservation. These talks were attended by a total audience of over 1,000 people. In addition, HWDT has given three presentations at two international conferences on cetaceans and marine ecotourism in Argyll and West Scotland, namely the Society for Marine Mammalogy Biennial Conference in Vancouver and the European Cetacean Society Annual Conference in Liege, Belgium. The total estimated audience for these presentations was 2,100 marine mammal students and scientists. Eight interpretative exhibits have also been presented at a variety of local and national events. These exhibits typically involved the display of educational materials produced through NADAIR Project 5 (e.g. the interpretative display boards, models and costumes), as well as computers running marine environmentally themed programs, children's activities and games run by attending HWDT staff.

Conferences & Forums

One educational aspect of Project 5 was to attend a variety of conferences and forums and to raise awareness of Argyll cetaceans and marine environmental issues at these venues. HWDT has attended:

- **8 International Conferences/Forums**, including the International Whaling Commission Scientific Committee and the European Cetacean Society Conference;
- **16 National Forums/Seminars**, including the Tourism and the Environment Forum and the UK Bio-Diversity Action Plan Steering Group for Cetaceans;
- **18 Regional Forums/Seminars**, including the Argyll and Bute Regional Environmental Education Forum;
- **24 Local Forums/Meetings** such as the Mull and Iona Land and Sea Forum and the Hebridean Marine National Park Partnership meetings.

Press/media Trips

2 group press trips were arranged and over 22 individual press visited the project and covered the

project for a variety of media from television, radio, magazines and newspapers (full press cuttings are available).

Symposium



The first ever West Coast Whale Festival was held on the 18th & 19th of September 2004 and was hailed a resounding success by the 150 visitors who attended. World experts and local speakers gave in-depth talks on cetacean conservation and the marine environment. A lively Ceilidh was held on the Saturday night, followed by a whale-watching regatta on the Sunday.

MARINE AWARENESS EDUCATION & MONITORING

Public Enquires about Marine Life

Marine Discovery Centre staff dealt with over 5000 public inquiries about local wildlife and tours, and through referring customers to local tour operators secured bookings for Mull wildlife tour operators.

Training Programme

Project 5 has also encompassed a training programme (aimed primarily at young people, the unemployed and members of the local community) through which knowledge about the marine environment and valuable skills - such as computing, design, dealing with the public and organisational skills - have been learnt. Over 90 volunteers have undertaken this training programme.

Marine Awareness Monitoring

In order to gauge the level of marine environmental awareness in the population of Argyll and in key target groups, two questionnaires were produced and 5 area and 1 special interest focus groups were questioned including:

- Mull (50 respondents)
- Islay (50 respondents)
- Tarbert (50 respondents)
- Campbeltown (50 respondents)
- Glasgow (52 respondents)
- Marine wildlife tour operators (26 respondents)

The results of these questionnaires showed that residents on the Argyll islands have a greater awareness of cetaceans and the marine environment. The majority of participants underestimated the number of cetacean species present in the waters of Western Scotland, most answering that there are about half of the actual number. Moreover, although the majority of participants identified fishing as being a major source of income for Argyll, it was clear that many participants were also aware of environmental impacts of some forms of commercial fishing methods, with over-fishing being the most common threat to the Argyll marine environment. The other main threats quoted being sewage pollution and marine litter. Approximately a fifth of those questioned

thought that there were no threats at all to the marine environment of Argyll or did not know of any. In general, awareness of marine issues was poorest in those people under 20 years of age or over 50 years old. Inhabitants of Tobermory, followed by Islay, demonstrated the greatest levels of environmental awareness. Within Argyll, the lowest level of environmental awareness was found in Campbelltown, although inhabitants of Glasgow scored the lowest marks on all indicators of marine environmental awareness.

The reports below summarise much of the information gained from these studies:

Scott, N.J. and Parsons, E.C.M. 2001. Marine Environmental Awareness in Argyll, West Scotland. 97pp.

Bridgeland, R. 2002. A study of the extent of interpretation in marine wildlife tourism in Western Scotland. 67pp.

ADDITIONAL OUTPUTS & ACHIEVEMENTS

Creating Employment

Through the NADAIR Marine Education and Interpretation programme alone a total of 25 people were employed for educational projects, of which 15 were local Argyll residents. In total the equivalent of four full-time positions were created as a result of the various educational contracts. In addition one full-time position was protected through the employment of a manager for Project 5 activities.

Green Tourism, Sustainable Development, Positive Economic Impact

In a research project carried out by HWDT in 1999 it was estimated that marine wildlife tourism brings £650,000 to the Isle of Mull, with a further £8.5 million from indirect income (accommodation for wildlife tourists etc.). A large proportion of these tourists heard about these wildlife trips/given information through the activities of HWDT (e.g. up to 50% of whale-watching trips were as the result of visits and enquiries to the HWDT Marine Discovery Centre in Tobermory alone). The HWDT Marine Discovery Centre is central to many of the Trust's educational activities, and through activities and displays run through this centre it also helps to enhance the experience of tourists to the Isle of Mull, as well as educating them about the marine aspects of their holiday destination.

Moreover, several interpretative materials produced by the marine education and interpretation project have been designed to focus the opportunities for watching wildlife in the Argyll Islands regions, which will be of benefit to green tour operators, and promote the benefits of sustainable development. In particular, HWDT's website (over 700,000 hits annually) has pages specifically focusing on these topics. Furthermore, some of the FE/HE course materials produced by the marine education and interpretation programme have been designed to promote the financial and educational value of wildlife tourism and also to promote proper management of this sector of tourism, so ensuring that it is truly sustainable and provides as many benefits to host communities as possible.